

# Calendar No. 265

115TH CONGRESS  
1ST SESSION

# S. 1425

[Report No. 115–186]

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

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## IN THE SENATE OF THE UNITED STATES

JUNE 22, 2017

Mr. WICKER (for himself, Ms. CANTWELL, Ms. MURKOWSKI, Mr. SULLIVAN, Mr. CASSIDY, Mr. GRAHAM, Ms. COLLINS, Mr. MARKEY, Mr. SCHATZ, Mr. PETERS, and Ms. HASSAN) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

NOVEMBER 27, 2017

Reported by Mr. THUNE, with an amendment

[Strike out all after the enacting clause and insert the part printed in italic]

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# A BILL

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

- 1       *Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,*

1   **SECTION 1. SHORT TITLE.**

2       This Act may be cited as the “Coordinated Ocean  
3   Monitoring and Research Act”.

4   **SEC. 2. PURPOSES.**

5       Section 12302 of the Integrated Coastal and Ocean  
6   Observation System Act of 2009 (33 U.S.C. 3601) is  
7   amended to read as follows:

8   **“SEC. 12302. PURPOSES.**

9       “The purposes of this subtitle are—

10           “(1) to establish and sustain a national inte-  
11   grated System of ocean, coastal, and Great Lakes  
12   observing systems, comprised of Federal and non-  
13   Federal components coordinated at the national level  
14   by the Council and at the regional level by a network  
15   of Regional Coastal Observing Systems, and that in-  
16   cludes in situ, remote, and other coastal and ocean  
17   observation and modeling capabilities, technologies,  
18   data management systems, communication systems,  
19   and product development systems, and is designed to  
20   address regional and national needs for ocean and  
21   coastal information, to gather specific data on key  
22   coastal, ocean, and Great Lakes variables, and to en-  
23   sure timely and sustained dissemination and avail-  
24   ability of these data—

25           “(A) to the public;

1               “(B) to support national defense, search  
2 and rescue operations, marine commerce, navi-  
3 gation safety, weather, climate, and marine  
4 forecasting, energy siting and production, eco-  
5 nomic development, ecosystem-based marine,  
6 coastal, and Great Lakes resource management,  
7 public safety, and public outreach and edu-  
8 cation;

9               “(C) to promote greater public awareness  
10 and stewardship of the Nation’s ocean, coastal,  
11 and Great Lakes resources and the general  
12 public welfare;

13               “(D) to provide easy access to ocean,  
14 coastal, and Great Lakes data and promote  
15 data sharing between Federal and non-Federal  
16 sources and promote public data sharing;

17               “(E) to enable advances in scientific un-  
18 derstanding to support the sustainable use, con-  
19 servation, management, and understanding of  
20 healthy ocean, coastal, and Great Lakes re-  
21 sources; and

22               “(F) to monitor and model changes in  
23 ocean chemistry;

24               “(2) to improve the Nation’s capability to meas-  
25 ure, track, observe, understand, and predict events

1 related directly and indirectly to weather and climate  
2 change, natural climate variability, and interactions  
3 between the oceanic and atmospheric environments,  
4 including the Great Lakes; and

5       “(3) to authorize activities—

6               “(A) to promote basic and applied research  
7 to develop, test, and deploy innovations and im-  
8 provements in coastal and ocean observation  
9 technologies, including advanced observing tech-  
10 nologies needed to address critical data gaps,  
11 modeling systems, other scientific and techno-  
12 logical capabilities to improve the under-  
13 standing of weather and climate, ocean-atmos-  
14 phere dynamics, global climate change, and the  
15 physical, chemical, and biological dynamics of  
16 the ocean, coastal and Great Lakes environ-  
17 ments; and

18               “(B) to conserve healthy and restore de-  
19 graded coastal ecosystems.”.

20 **SEC. 3. DEFINITIONS.**

21       Section 12303 of the Integrated Coastal and Ocean  
22 Observation System Act of 2009 (33 U.S.C. 3602) is  
23 amended—

24               (1) in paragraph (5), by striking “States, re-  
25 gional organizations, universities, nongovernmental

1 organizations, or the private sector.” and inserting  
2 “the regional coastal observing systems, the Na-  
3 tional Oceanic and Atmospheric Administration, or  
4 the Interagency Ocean Observation Committee.”;

5 (2) by amending paragraph (6) to read as fol-  
6 lows:

7 “(6) REGIONAL COASTAL OBSERVING SYS-  
8 TEM.—The term ‘regional coastal observing system’  
9 means an organizational body that is certified or es-  
10 tablished by contract or memorandum by the lead  
11 Federal agency designated in section 12304(e)(3)  
12 and coordinates State, Federal, local, tribal, and pri-  
13 vate interests at a regional level with the responsi-  
14 bility of engaging the private and public sectors in  
15 designing, operating, and improving regional coastal  
16 and ocean observing systems in order to ensure the  
17 provision of data and information that meet the  
18 needs of user groups from the respective regions.”;  
19 and

20 (3) in paragraph (7), by striking “National  
21 Oceanic and Atmospheric Administration.” and in-  
22 serting “Administrator.”.

23 **SEC. 4. INTEGRATED COASTAL AND OCEAN OBSERVATION**  
24 **SYSTEM.**

25 **(a) SYSTEM ELEMENTS.—**

1                 (1) IN GENERAL.—Section 12304(b) of the In-  
2 tegrated Coastal and Ocean Observation System Act  
3 of 2009 (33 U.S.C. 3603(b)) is amended by striking  
4 paragraph (1) and inserting the following:

5                 “(1) IN GENERAL.—In order to fulfill the pur-  
6 poses of this subtitle, the System shall be national  
7 in scope and consist of—

8                 “(A) Federal assets to fulfill national and  
9 international observation missions and prior-  
10 ities;

11                 “(B) non-Federal assets, including a net-  
12 work of regional coastal observing systems iden-  
13 tified under subsection (e)(4), to fulfill regional  
14 and national observation missions and prior-  
15 ities;

16                 “(C) data management, communication,  
17 and modeling systems for the timely integration  
18 and dissemination of data and information  
19 products from the System;

20                 “(D) a product development system to  
21 transform observations into products in a for-  
22 mat that may be readily used and understood;  
23 and

1               “(E) a research and development program  
2               conducted under the guidance of the Council,  
3               consisting of—

4               “(i) basic and applied research and  
5               technology development—

6               “(I) to improve understanding of  
7               coastal and ocean systems and their  
8               relationships to human activities; and

9               “(II) to ensure improvement of  
10              operational assets and products, in-  
11              cluding related infrastructure, observ-  
12              ing technologies, and information and  
13              data processing and management  
14              technologies;

15              “(ii) an advanced observing tech-  
16              nology development program to fill gaps in  
17              technology;

18              “(iii) large scale computing resources  
19              and research to advance modeling of coast-  
20              al and ocean processes;

21              “(iv) models to improve regional  
22              weather forecasting capabilities and re-  
23              gional weather forecasting products; and

24              “(v) reviews of data collection proce-  
25              dures across regions and programs to

1           make recommendations for data collection  
2           standards across the System to meet na-  
3           tional ocean observation, applied research,  
4           and weather forecasting needs.”.

5           **(2) AVAILABILITY OF DATA.**—Paragraph (3) of  
6           section 12304(b) of the Integrated Coastal and  
7           Ocean Observation System Act of 2009 (33 U.S.C.  
8           3603(b)) is amended by striking the period at the  
9           end and inserting “for research and for use in the  
10          development of products to address societal needs.”.

11           **(3) COORDINATION OF NON-FEDERAL AS-**  
12           **SETS.**—Paragraph (4) of section 12304(b) of the In-  
13           tegrated Coastal and Ocean Observation System Act  
14           of 2009 (33 U.S.C. 3603(b)) is amended—

15                 (A) in the paragraph heading, by striking  
16                 “NON-FEDERAL” and inserting “COORDINA-  
17                 TION OF NON-FEDERAL”, and

18                 (B) by inserting “, the regional coastal ob-  
19                 serving system,” after “Interagency Ocean Ob-  
20                 serving Committee”.

21           **(b) POLICY OVERSIGHT, ADMINISTRATION, AND RE-**  
22           **IONAL COORDINATION.**—Section 12304(e) of the In-  
23           tegrated Coastal and Ocean Observation System Act of  
24           2009 (33 U.S.C. 3603(e)) is amended by striking para-  
25           graphs (2), (3), and (4), and inserting the following:

1                 “(2) INTERAGENCY OCEAN OBSERVATION COM-  
2                 MITTEE.—

3                 “(A) ESTABLISHMENT.—The Council shall  
4                 establish or designate a committee which shall  
5                 be known as the Interagency Ocean Observation  
6                 Committee.

7                 “(B) DUTIES.—The Interagency Ocean  
8                 Observation Committee shall—

9                         “(i) prepare annual and long-term  
10                 plans for consideration and approval by the  
11                 Council for the integrated design, opera-  
12                 tion, maintenance, enhancement, and ex-  
13                 pansion of the System to meet the objec-  
14                 tives of this chapter and the System Plan;

15                         “(ii) develop and transmit to Con-  
16                 gress, along with the budget submitted by  
17                 the President to Congress pursuant to sec-  
18                 tion 1105(a) of title 31, United States  
19                 Code, an annual coordinated, comprehen-  
20                 sive budget—

21                         “(I) to operate all elements of  
22                 the System identified in subsection  
23                 (b); and

1               “(II) to ensure continuity of data  
2               streams from Federal and non-Fed-  
3               eral assets;

4               “(iii) establish requirements for obser-  
5               vation data variables to be gathered by  
6               both Federal and non-Federal assets and  
7               identify, in consultation with regional in-  
8               formation coordination entities, priorities  
9               for System observations;

10               “(iv) establish and define protocols  
11               and standards for System data processing,  
12               management, collection, configuration  
13               standards, formats, and communication for  
14               new and existing assets throughout the In-  
15               tegrated Ocean Observing System network;

16               “(v) develop contract requirements for  
17               each Regional Coastal Observing System—

18               “(I) to establish eligibility for in-  
19               tegration into the System;

20               “(II) to ensure compliance with  
21               all applicable standards and protocols  
22               established by the Council; and

23               “(III) to ensure that regional ob-  
24               servations are integrated into the Sys-  
25               tem on a sustained basis;

1                 “(vi) identify gaps in observation cov-  
2 erage or needs for capital improvements of  
3 both Federal assets and non-Federal as-  
4 sets;

5                 “(vii) subject to the availability of ap-  
6 propriations, establish through one or more  
7 participating Federal agencies, in consulta-  
8 tion with the System advisory committee  
9 established under subsection (d), a com-  
10 petitive matching grant or other pro-  
11 grams—

12                 “(I) to promote intramural and  
13 extramural research and development  
14 of new, innovative, and emerging ob-  
15 servation technologies including test-  
16 ing and field trials; and

17                 “(II) to facilitate the migration  
18 of new, innovative, and emerging sci-  
19 entific and technological advances  
20 from research and development to  
21 operational deployment;

22                 “(viii) periodically—

23                 “(I) review the System Plan; and  
24                 “(II) submit to the Council such  
25 recommendations as the Interagency

1                   Ocean Observation Committee may  
2                   have for improvements to the System  
3                   Plan;

4                   “(ix) ensure collaboration among Fed-  
5                   eral agencies participating in the activities  
6                   of the Interagency Ocean Observation  
7                   Committee; and

8                   “(x) perform such additional duties as  
9                   the Council may delegate.

10                  “(3) LEAD FEDERAL AGENCY.—

11                  “(A) IN GENERAL.—The National Oceanic  
12                  and Atmospheric Administration shall function  
13                  as the lead Federal agency for the implementa-  
14                  tion and administration of the System.

15                  “(B) CONSULTATION REQUIRED.—In car-  
16                  rying out this paragraph, the Administrator  
17                  shall consult with the Council, the Interagency  
18                  Ocean Observation Committee, other Federal  
19                  agencies that maintain portions of the System,  
20                  and the Regional Coastal Observing Systems.

21                  “(C) REQUIREMENTS.—In carrying out  
22                  this paragraph, the Administrator shall—

23                   “(i) establish and operate an Inte-  
24                   grated Ocean Observing System Program

1                   Office within the National Oceanic and At-  
2                   mospheric Administration—

3                   “(I) that utilizes, to the extent  
4                   necessary, personnel from member  
5                   agencies participating on the Inter-  
6                   agency Ocean Observation Committee;  
7                   and

8                   “(II) oversees daily operations  
9                   and coordination of the System;

10                  “(ii) implement policies, protocols,  
11                  and standards approved by the Council  
12                  and delegated by the Interagency Ocean  
13                  Observation Committee;

14                  “(iii) promulgate program guide-  
15                  lines—

16                  “(I) to certify and integrate re-  
17                  gional associations into the System;  
18                  and

19                  “(II) to provide regional coastal  
20                  and ocean observation data that meet  
21                  the needs of user groups from the re-  
22                  spective regions;

23                  “(iv) have the authority to enter into  
24                  and oversee contracts, leases, grants or co-  
25                  operative agreements with non-Federal as-

1 sets, including regional information coordi-  
2 nation entities, to support the purposes of  
3 this chapter on such terms as the Adminis-  
4 trator deems appropriate;

5 “(v) implement and maintain a merit-  
6 based, competitive funding process to sup-  
7 port non-Federal assets, including the de-  
8 velopment and maintenance of a network  
9 of Regional Coastal Observing Systems,  
10 and develop and implement a process for  
11 the periodic review and evaluation of the  
12 regional associations;

13 “(vi) provide opportunities for com-  
14 petitive contracts and grants for demon-  
15 stration projects to design, develop, inte-  
16 grate, deploy, maintain, and support com-  
17 ponents of the System;

18 “(vii) establish and maintain efficient  
19 and effective administrative procedures for  
20 allocation of funds among contractors,  
21 grantees, and non-Federal assets, including  
22 regional associations in a timely manner;

23 “(viii) develop and implement a proce-  
24 cess for the periodic review and evaluation

1                   of the Regional Coastal Observing Sys-  
2                   tems;

3                   “(ix) formulate an annual process by  
4                   which gaps in observation coverage or  
5                   needs for capital improvements of Federal  
6                   assets and non-Federal assets of the Sys-  
7                   tem are—

8                   “(I) identified by the regional as-  
9                   sociations described in the System  
10                  Plan, the Administrator, or other  
11                  members of the System; and

12                  “(II) submitted to the Inter-  
13                  agency Ocean Observing Committee;

14                  “(x) develop and be responsible for a  
15                  data management and communication sys-  
16                  tem, in accordance with standards and  
17                  protocols established by the Interagency  
18                  Ocean Observing Committee, by which all  
19                  data collected by the System regarding  
20                  ocean and coastal waters of the United  
21                  States including the Great Lakes, are pro-  
22                  cessed, stored, integrated, and made avail-  
23                  able to all end-user communities;

24                  “(xi) not less frequently than once  
25                  each year, submit to the Interagency

1           Ocean Observing Observation Committee a  
2           report on the accomplishments, operational  
3           needs, and performance of the System to  
4           contribute to the annual and long-term  
5           plans prepared pursuant to paragraph  
6           (2)(B)(i);

7           “(xii) develop and periodically update  
8           a plan to efficiently integrate into the Sys-  
9           tem new, innovative, or emerging tech-  
10          nologies that have been demonstrated to be  
11          useful to the System and which will fulfill  
12          the purposes of this chapter and the Sys-  
13          tem Plan; and

14           “(xiii) work with users and Regional  
15          Associations to develop products to enable  
16          real-time data sharing for decision makers,  
17          including with respect to weather fore-  
18          casting and modeling, search and rescue  
19          operations, corrosive seawater forecasts,  
20          water quality monitoring and communica-  
21          tion, and harmful algal bloom forecasting.

22           “(4) REGIONAL COASTAL OBSERVING SYS-  
23          TEMS.—

24           “(A) IN GENERAL.—A Regional Coastal  
25          Observing System operated by a Regional Asso-

1           eiation described in the System Plan may not  
2           be certified or established under this subtitle  
3           unless it—

4               “(i) has been or shall be certified or  
5           established by contract or agreement by  
6           the Administrator;

7               “(ii) meets—

8                   “(I) the certification standards  
9           and compliance procedure guidelines  
10           issued by the Administrator; and

11                  “(II) the information needs of  
12           user groups in the region while adher-  
13           ing to national standards;

14               “(iii) demonstrates an organizational  
15           structure, that under funding limitations is  
16           capable of—

17                   “(I) gathering required System  
18           observation data;

19                  “(II) supporting and integrating  
20           all aspects of coastal and ocean ob-  
21           serving and information programs  
22           within a region; and

23               “(III) reflecting the needs of  
24           State, local, and tribal governments,  
25           commercial interests, and other users

1                   and beneficiaries of the System and  
2                   other requirements specified under  
3                   this subtitle and the System Plan;

4                   “(iv) identifies—

5                   “(I) gaps in observation coverage  
6                   needs for capital improvements of  
7                   Federal assets and non-Federal assets  
8                   of the System;

9                   “(II) other recommendations to  
10                  assist in the development of the an-  
11                  nual and long-term plans prepared  
12                  pursuant to paragraph (2)(B)(i) and  
13                  transmit such information to the  
14                  Interagency Ocean Observation Com-  
15                  mittee via the Program Office estab-  
16                  lished under paragraph (3)(C)(i);

17                  “(v) develops and operates under a  
18                  strategic operational plan that will ensure  
19                  the efficient and effective administration of  
20                  programs and assets to support daily data  
21                  observations for integration into the Sys-  
22                  tem, pursuant to the standards approved  
23                  by the Council;

24                  “(vi) works cooperatively with govern-  
25                  mental and nongovernmental entities at all

1           levels to identify and provide information  
2           products of the System for multiple users  
3           within the service area of the regional  
4           coastal observing system; and

5           “(vii) complies with all financial over-  
6           sight requirements established by the Ad-  
7           ministrator, including requirements relat-  
8           ing to audits.

9           **“(B) PARTICIPATION.**—For the purposes  
10          of this title, employees of Federal agencies are  
11          permitted to be members of the governing body  
12          for the Regional Coastal Observing Systems  
13          and may participate in the functions of the re-  
14          gional information coordination entities.”.

15          (e) **SYSTEM ADVISORY COMMITTEE.**—Section  
16 12304(d) of the Integrated Coastal and Ocean Observa-  
17 tion System Act of 2009 (33 U.S.C. 3603(d)) is amend-  
18 ed—

19           (1) in paragraph (1), by striking “or the Inter-  
20 agency Ocean Observing Observation Committee.”  
21           and inserting “the Council under this subtitle”; and

22           (2) in paragraph (2)—

23           (A) in subparagraph (A), by inserting  
24           “data sharing,” after “data management”;

1                   (B) in subparagraph (C), by striking  
2       “and” at the end; and

3                   (C) by striking subparagraph (D) and in-  
4       serting the following:

5                   “(D) additional priorities, including—

6                         “(i) a national surface current map-  
7       ping network designed to improve fine  
8       scale sea surface mapping using high fre-  
9       quency radar technology and other emerg-  
10      ing technologies to address national prior-  
11      ities, including Coast Guard search and  
12      rescue operation planning and harmful  
13      algal bloom forecasting and detection  
14      that—

15                         “(I) is comprised of existing  
16      high-frequency radar and other sea  
17      surface current mapping infrastruc-  
18      ture operated by regional associations;

19                         “(II) incorporates new high-fre-  
20      quency radar assets or other fine scale  
21      sea surface mapping technology as-  
22      sets, and other assets needed to fill  
23      gaps in coverage on United States  
24      coastlines; and

1                 “(III) follows deployment plan  
2                 that prioritizes closing gaps in high  
3                 frequency radar infrastructure in the  
4                 United States, starting with areas  
5                 demonstrating significant sea surface  
6                 current data needs, especially in areas  
7                 where additional data will improve  
8                 Coast Guard search and rescue mod-  
9                 els;

10                 “(ii) fleet acquisition for autonomous  
11                 underwater and surface vehicles for deploy-  
12                 ment and data integration to fulfill the  
13                 purposes of the Act;

14                 “(iii) an integrative survey program  
15                 for application of manned and unmanned  
16                 vehicles to the real-time or near real-time  
17                 collection and transmission of seafloor,  
18                 water column, and sea surface data on bi-  
19                 ology, chemistry, geology, physics and hy-  
20                 drography;

21                 “(iv) remote sensing and data assimila-  
22                 tion to develop new analytical methodolo-  
23                 gies to assimilate data from the Integrated  
24                 Ocean Observing System into hydro-  
25                 dynamic models;

1               “(v) integrated, multi-State monitoring to assess sources, movement and  
2               fate of sediments in coastal regions;

3  
4               “(vi) a multi-region marine sound  
5               monitoring system to be—

6               “(I) planned in consultation with  
7               the International Ocean Observing  
8               Committee, the National Oceanic and  
9               Atmospheric Administration, and aca-  
10               demie research institutions; and

11               “(II) developed, installed, and op-  
12               erated in coordination with the Na-  
13               tional Oceanic and Atmospheric Ad-  
14               ministration and academic research  
15               institutions; and

16               “(E) any other purpose identified by the  
17               Administrator or the Council.”;

18               (D) in paragraph (3)(B), by inserting  
19               “The Secretary has the ability to stagger the  
20               terms of the System advisory committee mem-  
21               bers.” before “Members”; and

22               (E) in paragraph (4)—

23               (i) in subparagraph (A), by striking  
24               “and the Interagency Ocean Observing  
25               Committee”; and

1                             (ii) in subparagraph (C), by striking  
2                                 “Observing” and inserting “Observation”.

3                     (d) CIVIL LIABILITY.—Section 12304(e) of the Inte-  
4 grated Coastal and Ocean Observation System Act of  
5 2009 (33 U.S.C. 3603(e)) is amended—

6                             (1) by striking “information coordination enti-  
7 ty” and inserting “coastal observation system”; and

8                             (2) by striking “non-Federal asset or regional  
9 information coordination entity” and inserting “Re-  
10 gional Coastal Observing System.”

11 **SEC. 5. INTERAGENCY FINANCING AND AGREEMENTS.**

12                     Section 12305(a) of the Integrated Coastal and  
13 Ocean Observation System Act of 2009 (33 U.S.C.  
14 3604(a)) is amended to read as follows:

15                     “(a) IN GENERAL.—To carry out interagency activi-  
16 ties under this subtitle, the Secretary of Commerce may  
17 execute an agreement, on a reimbursable or nonreimburs-  
18 able basis, with any State or subdivision thereof, any Fed-  
19 eral agency, or any public or private organization, or indi-  
20 vidual to carry out interagency activities under this sub-  
21 title.”.

22 **SEC. 6. REPORTS TO CONGRESS.**

23                     Section 12307 of the Integrated Coastal and Ocean  
24 Observation System Act of 2009 (33 U.S.C. 3606) is  
25 amended to read as follows:

1       “(a) REQUIREMENT.—Not later than 2 years after  
2 March 30, 2009, and every 3 years thereafter, the Admin-  
3 istrator shall prepare and the President acting through the  
4 Council shall approve and transmit to the Congress a re-  
5 port on progress made in implementing this subtitle.

6       “(b) CONTENTS.—Each report required by sub-  
7 section (a) shall include—

8           “(1) a description of activities carried out under  
9 this subtitle and the System Plan;

10          “(2) an evaluation of the effectiveness of the  
11 System, including an evaluation of progress made by  
12 the Council to achieve the goals identified under the  
13 System Plan;

14          “(3) identification of Federal and non-Federal  
15 assets as determined by the Council that have been  
16 integrated into the System, including assets essential  
17 to the gathering of required observation data vari-  
18 ables necessary to meet the respective missions of  
19 Council agencies;

20          “(4) a review of procurements, planned or initi-  
21 ated, by each Council agency to enhance, expand, or  
22 modernize the observation capabilities and data  
23 products provided by the System, including data  
24 management and communication subsystems;

1           “(5) a summary of the existing gaps in observa-  
2       tion infrastructure and monitoring data collection,  
3       including—

4           “(A) priorities considered by the System  
5       advisory committee;

6           “(B) the national sea surface current map-  
7       ping network;

8           “(C) coastal buoys; and;

9           “(D) ocean chemistry monitoring;

10          “(6) an assessment regarding activities to inte-  
11       grate Federal and non-Federal assets, nationally and  
12       on the regional level, and discussion of the perform-  
13       ance and effectiveness of regional information co-  
14       ordination entities to coordinate regional observation  
15       operations;

16          “(7) a description of benefits of the program to  
17       users of data products resulting from the System  
18       (including the general public, industries, scientists,  
19       resource managers, emergency responders, policy  
20       makers, and educators);

21          “(8) recommendations concerning—

22           “(A) modifications to the System; and

23           “(B) funding levels for the System in sub-  
24       sequent fiscal years; and

1           “(9) the results of a periodic external inde-  
2       pendent programmatic audit of the System.”.

3 **SEC. 7. PUBLIC-PRIVATE USE POLICY.**

4       Section 12308 of the Integrated Coastal and Ocean  
5       Observation System Act of 2009 (33 U.S.C. 3607) is  
6       amended to read as follows:

7           “The Council shall maintain a policy that defines  
8       processes for making decisions about the roles of the Fed-  
9       eral Government, the States, regional information coordi-  
10      nation entities, the academic community, and the private  
11      sector in providing to end-user communities environmental  
12      information, products, technologies, and services related to  
13      the System. The Administrator shall ensure that National  
14      Oceanic and Atmospheric Administration adheres to the  
15      decision making process developed by the Council regard-  
16      ing the roles of the Federal Government, the States, the  
17      Regional Coastal Observing Systems, the academic com-  
18      munities, and the private sector in providing the end-user  
19      communities environmental information, data products,  
20      technologies, and services related to the System.”.

21 **SEC. 8. INDEPENDENT COST ESTIMATE.**

22       The Integrated Coastal and Ocean Observation Sys-  
23       tem Act of 2009 is amended by striking section 12309  
24       (33 U.S.C. 3608).

1   **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2       Section 12311 of the Integrated Coastal and Ocean  
3   Observation System Act of 2009 (33 U.S.C. 3610) is  
4   amended by striking section “2013” and inserting  
5   “2021”.

6   **SEC. 10. REPORTS AND RESEARCH PLANS.**

7       Section 12404(e) of the Federal Ocean Acidification  
8   Research And Monitoring Act of 2009 (33 U.S.C.  
9   3703(e)) is amended by adding at the end the following:

10           “(4) ECONOMIC VULNERABILITY REPORT.—Not  
11   later than 1 year after the enactment of the Coordinated  
12   Ocean Monitoring and Research Act, and  
13   every 5 years thereafter, the Subcommittee shall  
14   transmit to the Committee on Commerce, Science,  
15   and Transportation of the Senate and the Committee  
16   on Science, Space, and Technology and the  
17   Committee on Natural Resources of the House of  
18   Representatives a report that—

19           “(A) is named ‘The Ocean Chemistry  
20   Coastal Community Vulnerability Assessment’;

21           “(B) identifies gaps in ocean acidification  
22   monitoring by public, academic, and private as-  
23   sets in the network of regional coastal observing  
24   systems;

25           “(C) identifies areas which have gaps in  
26   ocean acidification research;

1           “(D) identifies United States coastal com-  
2 munities, including fishing communities, low-  
3 population rural communities, tribal and sub-  
4 sistence communities, and island communities,  
5 that may be impacted by ocean acidification;

6           “(E) identifies impacts of changing ocean  
7 pH on the communities described in subparagraph  
8 (D), including impacts from changes in  
9 ocean and coastal marine resources that are not  
10 managed by the Federal Government;

11          “(F) identifies gaps in understanding of  
12 the impacts of ocean acidification on economi-  
13 cally or commercially important species, par-  
14 ticularly those which support United States  
15 commercial, recreational, and tribal fisheries  
16 and aquaculture;

17          “(G) identifies habitats that are particu-  
18 larly vulnerable to corrosive sea water, includ-  
19 ing areas experiencing multiple stressors such  
20 as hypoxia, sedimentation and harmful algal  
21 blooms;

22          “(H) identifies areas in which existing In-  
23 tegrated Ocean Observing System assets, in-  
24 cluding buoys and gliders, that may be lever-

1           aged as platforms for the deployment of new  
2           sensors; and

3           “(I) is written in collaboration with the  
4           agencies responsible for carrying out this Act.

5           **“(5) MONITORING PRIORITIZATION PLAN.—Not**  
6           later than 180 days after the submission of the re-  
7           port required by paragraph (4), the Subcommittee  
8           shall transmit to the Committee on Commerce,  
9           Science, and Transportation of the Senate and the  
10          Committee on Science, Space, and Technology and  
11          the Committee on Natural Resources of the House  
12          of Representatives a report that develops a plan to  
13          deploy new sensors—

14           “(A) based on the report required by para-  
15           graph (4);

16           “(B) prioritized by—

17           “(i) the threat to coastal economies  
18           and ecosystems;

19           “(ii) gaps in data; and

20           “(iii) research needs; and

21           “(C) that leverage existing platforms,  
22           where possible.”.

1   **SEC. 11. STRATEGIC RESEARCH PLAN.**

2       (a) CONTENTS.—Section 12405(b) of the Federal  
3   Ocean Acidification Research And Monitoring Act of 2009  
4   (33 U.S.C. 3704(b)) is amended—

5               (1) in paragraph (8), by striking “and” at the  
6   end;

7               (2) in paragraph (9), by striking the period at  
8   the end and inserting a semicolon and “and”; and

9               (3) by adding at the end the following:

10               “(10) make recommendations for research to be  
11   conducted, including in the social sciences and eco-  
12   nomics, to address the key knowledge gaps identified  
13   in the economic vulnerability report conducted under  
14   section 12404(e).”.

15       (b) PROGRAM ELEMENTS.—Section 12405(c) of the  
16   Federal Ocean Acidification Research And Monitoring Act  
17   of 2009 (33 U.S.C. 3704(c)) is amended by adding at the  
18   end the following:

19               “(6) Research to understand combined effects  
20   of changes in ocean chemistry, sediment delivery, hy-  
21   poxia and harmful algal blooms and the impact  
22   these processes have on one another, and how these  
23   multiple stressors impact living marine resources  
24   and coastal ecosystems;

25               “(7) Applied research to identify adaptation  
26   strategies for species impacted by changes in ocean

1       chemistry including vegetation-based systems, shell  
2       recycling, species and genetic diversity, applied tech-  
3       nologies, aquaculture methodologies, and manage-  
4       ment recommendations.”.

5 **SEC. 12. STAKEHOLDER INPUT ON MONITORING.**

6       Section 12406(a) of the Federal Ocean Acidification  
7       Research And Monitoring Act of 2009 (33 U.S.C.  
8       3705(a)) is amended—

9                 (1) in paragraph (2), by striking “and” at the  
10          end;

11                 (2) in paragraph (3), by striking the period at  
12          the end and inserting a semicolon and “and”; and

13                 (3) by adding at the end the following:

14                 “(4) includes an ongoing mechanism that allows  
15          potentially affected industry members, coastal stake-  
16          holders, fishery management councils and commis-  
17          sions, non-Federal resource managers, and scientific  
18          experts to provide input on monitoring needs that  
19          are necessary to support on the ground manage-  
20          ment, decision making, and adaptation related to  
21          ocean acidification.”.

22 **SEC. 13. RESEARCH ACTIVITIES.**

23       Section 12407(a) of the Federal Ocean Acidification  
24       Research And Monitoring Act of 2009 (33 U.S.C.  
25       3706(a)) is amended to read as follows:

1       “(a) RESEARCH ACTIVITIES.—The Director of the  
2 National Science Foundation shall continue to carry out  
3 research activities on ocean acidification which shall sup-  
4 port competitive, merit-based, peer-reviewed proposals for  
5 research, observatories and monitoring of ocean acidifica-  
6 tion and its impacts, including—

7           “(1) impacts on marine organisms and marine  
8 ecosystems;

9           “(2) impacts on ocean, coastal, and estuarine  
10 biogeochemistry;

11           “(3) the development of methodologies and  
12 technologies to evaluate ocean acidification and its  
13 impacts; and

14           “(4) impacts of multiple stressors on eco-  
15 systems exhibiting hypoxia, harmful algal blooms, or  
16 sediment delivery, combined with changes in ocean  
17 chemistry.”.

18 **SECTION 1. SHORT TITLE; TABLE OF CONTENTS.**

19       (a) *SHORT TITLE.*—This Act may be cited as the “Co-  
20 ordinated Ocean Monitoring and Research Act”.

21       (b) *TABLE OF CONTENTS.*—The table of contents for  
22 this Act is as follows:

- Sec. 1. Short title; table of contents.
- Sec. 2. Purposes.
- Sec. 3. Definitions.
- Sec. 4. Integrated Coastal and Ocean Observation System.
- Sec. 5. Financing and agreements.
- Sec. 6. Reports to Congress.
- Sec. 7. Public-private use policy.

Sec. 8. *Repeal of independent cost estimate.*  
Sec. 9. *Authorization of appropriations.*  
Sec. 10. *Reports and research plans.*  
Sec. 11. *Strategic research plan.*  
Sec. 12. *Stakeholder input on monitoring.*  
Sec. 13. *Research activities.*

1   **SEC. 2. PURPOSES.**

2       *Section 12302 of the Integrated Coastal and Ocean Ob-*  
3   *servation System Act of 2009 (33 U.S.C. 3601) is amended*  
4   *to read as follows:*

5   **“SEC. 12302. PURPOSES.**

6       *“The purposes of this subtitle are—*

7           *“(1) to establish and sustain a national inte-*  
8   *grated System of ocean, coastal, and Great Lakes ob-*  
9   *serving systems, comprised of Federal and non-Fed-*  
10   *eral components coordinated at the national level by*  
11   *the Council and at the regional level by a network of*  
12   *regional coastal observing systems, and that includes*  
13   *in situ, remote, and other coastal and ocean observa-*  
14   *tion and modeling capabilities, technologies, data*  
15   *management systems, communication systems, and*  
16   *product development systems, and is designed to ad-*  
17   *dress regional and national needs for ocean and*  
18   *coastal information, to gather specific data on key*  
19   *coastal, ocean, and Great Lakes variables, and to en-*  
20   *sure timely and sustained dissemination and avail-*  
21   *ability of these data—*

22           *“(A) to the public;*

- 1               “(B) to support national defense, search  
2 and rescue operations, marine commerce, navi-  
3 gation safety, weather, climate, and marine fore-  
4 casting, energy siting and production, economic  
5 development, ecosystem-based marine, coastal,  
6 and Great Lakes resource management, public  
7 safety, and public outreach and education;
- 8               “(C) to promote greater public awareness  
9 and stewardship of the Nation’s ocean, coastal,  
10 and Great Lakes resources and the general public  
11 welfare;
- 12              “(D) to provide easy access to ocean, coast-  
13 al, and Great Lakes data and promote data  
14 sharing between Federal and non-Federal sources  
15 and promote public data sharing;
- 16              “(E) to enable advances in scientific under-  
17 standing to support the sustainable use, con-  
18 servation, management, and understanding of  
19 healthy ocean, coastal, and Great Lakes re-  
20 sources; and
- 21              “(F) to monitor and model changes in  
22 ocean chemistry;
- 23              “(2) to improve the Nation’s capability to meas-  
24 ure, track, observe, understand, and predict events re-  
25 lated directly and indirectly to weather and climate

1       *change, natural climate variability, and interactions*  
2       *between the oceanic and atmospheric environments,*  
3       *including the Great Lakes; and*

4           “(3) to authorize activities—

5              “(A) to promote basic and applied research  
6        *to develop, test, and deploy innovations and im-*  
7       *provements in coastal and ocean observation*  
8       *technologies, including advanced observing tech-*  
9       *nologies needed to address critical data gaps,*  
10      *modeling systems, other scientific and techno-*  
11      *logical capabilities to improve the understanding*  
12      *of weather and climate, ocean-atmosphere dy-*  
13      *namics, global climate change, and the physical,*  
14      *chemical, and biological dynamics of the ocean,*  
15      *coastal and Great Lakes environments; and*

16              “(B) to conserve healthy and restore de-  
17      *graded coastal ecosystems.”.*

18 **SEC. 3. DEFINITIONS.**

19       *Section 12303 of the Integrated Coastal and Ocean Ob-*  
20      *servation System Act of 2009 (33 U.S.C. 3602) is amend-*  
21      *ed—*

22              (1) in paragraph (5), by striking “integrated  
23       *into the System and are managed through States, re-*  
24       *gional organizations, universities, nongovernmental*  
25       *organizations, or the private sector” and inserting*

1       “managed through States, regional organizations,  
2       universities, nongovernmental organizations, or the  
3       private sector and integrated into the system by the  
4       regional coastal ocean observing system, the National  
5       Oceanic and Atmospheric Administration, or the  
6       agencies on the Interagency Ocean Observation Com-  
7       mittee”;

8               (2) by amending paragraph (6) to read as fol-  
9       lows:

10               “(6) REGIONAL COASTAL OBSERVING SYSTEM.—  
11       The term ‘regional coastal observing system’ means  
12       an organizational body that is certified or established  
13       by contract or memorandum by the lead Federal  
14       agency designated in section 12304(c)(3) and coordi-  
15       nates State, Federal, local, tribal, and private inter-  
16       ests at a regional level with the responsibility of en-  
17       gaging the private and public sectors in designing,  
18       operating, and improving regional coastal and ocean  
19       observing systems in order to ensure the provision of  
20       data and information that meet the needs of user  
21       groups from the respective regions.”; and

22               (3) in paragraph (7), by striking “National Oce-  
23       anic and Atmospheric Administration” and inserting  
24       “Administrator”.

1 **SEC. 4. INTEGRATED COASTAL AND OCEAN OBSERVATION**2 **SYSTEM.**3 **(a) SYSTEM ELEMENTS.—**

4           **(1) IN GENERAL.**—Section 12304(b) of the Integrated Coastal and Ocean Observation System Act of  
5 2009 (33 U.S.C. 3603(b)) is amended by striking  
6 paragraph (1) and inserting the following:

7           “(1) **IN GENERAL.**—In order to fulfill the purposes of this subtitle, the System shall be national in scope and consist of—

8           “(A) Federal assets to fulfill national and international observation missions and priorities;

9           “(B) non-Federal assets, including a network of regional coastal observing systems identified under subsection (c)(4), to fulfill regional and national observation missions and priorities;

10           “(C) data management, communication, and modeling systems for the timely integration and dissemination of data and information products from the System;

11           “(D) a product development system to transform observations into products in a format that may be readily used and understood; and

1               “(E) a research and development program  
2               conducted under the guidance of the Council,  
3               consisting of—

4               “(i) basic and applied research and  
5               technology development—

6               “(I) to improve understanding of  
7               coastal and ocean systems and their re-  
8               lationships to human activities; and

9               “(II) to ensure improvement of  
10              operational assets and products, in-  
11              cluding related infrastructure, observ-  
12              ing technologies, and information and  
13              data processing and management tech-  
14              nologies;

15              “(ii) an advanced observing technology  
16              development program to fill gaps in tech-  
17              nology;

18              “(iii) large scale computing resources  
19              and research to advance modeling of coast-  
20              al, ocean, and Great Lakes processes;

21              “(iv) models to improve regional  
22              weather forecasting capabilities and re-  
23              gional weather forecasting products; and

24              “(v) reviews of data collection proce-  
25              dures across regions and programs to make

1           *recommendations for data collection stand-*  
2           *ards across the System to meet national*  
3           *ocean, coastal, and Great Lakes observation,*  
4           *applied research, and weather forecasting*  
5           *needs.”.*

6           (2)     *AVAILABILITY       OF       DATA.—Section*  
7           *12304(b)(3) of such Act (33 U.S.C. 3603(b)(3)) is*  
8           *amended by inserting “for research and for use in the*  
9           *development of products to address societal needs” be-*  
10          *fore the period at the end.*

11          (3)     *COORDINATION OF NON-FEDERAL ASSETS.—*  
12          *Section 12304(b)(4) of such Act (33 U.S.C. 3603(b))*  
13          *is amended—*

14           (A)     *in the paragraph heading, by striking*  
15           *“NON-FEDERAL” and inserting “COORDINATION*  
16           *OF NON-FEDERAL”; and*  
17           (B)     *by striking “or by” and inserting “, the*  
18           *regional coastal observing system, or”.*

19          (b)     *POLICY OVERSIGHT, ADMINISTRATION, AND RE-*  
20          *GIONAL COORDINATION.—Section 12304(c) of the Integrated*  
21          *Coastal and Ocean Observation System Act of 2009 (33*  
22          *U.S.C. 3603(c)) is amended by striking paragraphs (2), (3),*  
23          *and (4), and inserting the following:*

24           “(2)     *INTERAGENCY OCEAN OBSERVATION COM-*  
25          *MITTEE.—*

1                 “(A) ESTABLISHMENT.—The Council shall  
2 establish or designate a committee, which shall  
3 be known as the Interagency Ocean Observation  
4 Committee.

5                 “(B) DUTIES.—The Interagency Ocean Ob-  
6 servation Committee shall—

7                     “(i) prepare annual and long-term  
8 plans for consideration and approval by the  
9 Council for the integrated design, operation,  
10 maintenance, enhancement, and expansion  
11 of the System to meet the objectives of this  
12 chapter and the System Plan;

13                     “(ii) develop and transmit to Congress,  
14 along with the budget submitted by the  
15 President to Congress pursuant to section  
16 1105(a) of title 31, United States Code, an  
17 annual coordinated, comprehensive budg-  
18 et—

19                     “(I) to operate all elements of the  
20 System identified in subsection (b);  
21 and

22                     “(II) to ensure continuity of data  
23 streams from Federal and non-Federal  
24 assets;

- 1                     “(iii) establish requirements for obser-  
2                     vation data variables to be gathered by both  
3                     Federal and non-Federal assets and iden-  
4                     tify, in consultation with regional informa-  
5                     tion coordination entities, priorities for  
6                     System observations;
- 7                     “(iv) establish and define protocols and  
8                     standards for System data processing, man-  
9                     agement, collection, configuration stand-  
10                    ards, formats, and communication for new  
11                    and existing assets throughout the Inte-  
12                    grated Ocean Observing System network;
- 13                    “(v) develop contract requirements for  
14                    each regional coastal observing system—  
15                         “(I) to establish eligibility for in-  
16                         tegration into the System;  
17                         “(II) to ensure compliance with  
18                         all applicable standards and protocols  
19                         established by the Council; and  
20                         “(III) to ensure that regional ob-  
21                         servations are integrated into the Sys-  
22                         tem on a sustained basis;  
23                         “(vi) identify gaps in observation cov-  
24                         erage or needs for capital improvements of  
25                         both Federal assets and non-Federal assets;

1                   “(vii) subject to the availability of ap-  
2 propriations, establish through 1 or more  
3 participating Federal agencies, in consulta-  
4 tion with the System advisory committee es-  
5 tablished under subsection (d), a competi-  
6 tive matching grant or other programs—

7                   “(I) to promote intramural and  
8 extramural research and development  
9 of new, innovative, and emerging ob-  
10 servation technologies including testing  
11 and field trials; and

12                  “(II) to facilitate the migration of  
13 new, innovative, and emerging sci-  
14 entific and technological advances from  
15 research and development to oper-  
16 ational deployment;

17                  “(viii) periodically—

18                  “(I) review the System Plan; and  
19                  “(II) submit to the Council such  
20 recommendations as the Interagency  
21 Ocean Observation Committee may  
22 have for improvements to the System  
23 Plan;

24                  “(ix) ensure collaboration among Fed-  
25 eral agencies participating in the activities

1                   *of the Interagency Ocean Observation Com-*  
2                   *mittee; and*

3                   “*(x) perform such additional duties as*  
4                   *the Council may delegate.*

5                   “(3) *LEAD FEDERAL AGENCY.*—

6                   “(A) *IN GENERAL.*—*The National Oceanic*  
7                   *and Atmospheric Administration shall function*  
8                   *as the lead Federal agency for the implementa-*  
9                   *tion and administration of the System.*

10                  “(B) *CONSULTATION REQUIRED.*—*In car-*  
11                  *rying out this paragraph, the Administrator*  
12                  *shall consult with the Council, the Interagency*  
13                  *Ocean Observation Committee, other Federal*  
14                  *agencies that maintain portions of the System,*  
15                  *and the regional coastal observing systems.*

16                  “(C) *REQUIREMENTS.*—*In carrying out this*  
17                  *paragraph, the Administrator shall—*

18                  “(i) *establish and operate an Integrated*  
19                  *Ocean Observing System Program*  
20                  *Office within the National Oceanic and At-*  
21                  *mospheric Administration—*

22                  “(I) *that utilizes, to the extent*  
23                  *necessary, personnel from member*  
24                  *agencies participating on the Inter-*

1                   *agency Ocean Observation Committee;*

2                   *and*

3                   “(II) *oversees daily operations*  
4                   *and coordination of the System;*

5                   “(ii) *implement policies, protocols, and*  
6                   *standards approved by the Council and del-*  
7                   *egeted by the Interagency Ocean Observa-*  
8                   *tion Committee;*

9                   “(iii) *promulgate program guide-*  
10                  *lines—*

11                  “(I) *to certify and integrate re-*  
12                  *gional associations into the System;*

13                  *and*

14                  “(II) *to provide regional coastal*  
15                  *and ocean observation data that meet*  
16                  *the needs of user groups from the re-*  
17                  *spective regions;*

18                  “(iv) *have the authority to enter into*  
19                  *and oversee contracts, leases, grants, or co-*  
20                  *operative agreements with non-Federal as-*  
21                  *sets, including regional information coordi-*  
22                  *nation entities, to support the purposes of*  
23                  *this chapter on such terms as the Adminis-*  
24                  *trator deems appropriate;*

1                 “(v) implement and maintain a merit-  
2 based, competitive funding process to sup-  
3 port non-Federal assets, including the devel-  
4 opment and maintenance of a network of  
5 regional coastal observing systems, and de-  
6 velop and implement a process for the peri-  
7 odic review and evaluation of the regional  
8 associations;

9                 “(vi) provide opportunities for com-  
10 petitive contracts and grants for demonstra-  
11 tion projects to design, develop, integrate,  
12 deploy, maintain, and support components  
13 of the System;

14                 “(vii) establish and maintain efficient  
15 and effective administrative procedures for  
16 the timely allocation of funds among con-  
17 tractors, grantees, and non-Federal assets,  
18 including regional associations;

19                 “(viii) develop and implement a proc-  
20 ess for the periodic review and evaluation of  
21 the regional coastal observing systems;

22                 “(ix) formulate an annual process by  
23 which gaps in observation coverage or needs  
24 for capital improvements of Federal assets  
25 and non-Federal assets of the System are—

1                   “(I) identified by the regional as-  
2                   sociations described in the System  
3                   Plan, the Administrator, or other  
4                   members of the System; and

5                   “(II) submitted to the Interagency  
6                   Ocean Observation Committee;

7                   “(x) develop and be responsible for a  
8                   data management and communication sys-  
9                   tem, in accordance with standards and pro-  
10                  tocols established by the Interagency Ocean  
11                  Observation Committee, by which all data  
12                  collected by the System regarding ocean and  
13                  coastal waters of the United States includ-  
14                  ing the Great Lakes, are processed, stored,  
15                  integrated, and made available to all end-  
16                  user communities;

17                  “(xi) not less frequently than once each  
18                  year, submit to the Interagency Ocean Ob-  
19                  servation Committee a report on the accom-  
20                  plishments, operational needs, and perform-  
21                  ance of the System to contribute to the an-  
22                  nual and long-term plans prepared pursu-  
23                  ant to paragraph (2)(B)(i);

24                  “(xii) develop and periodically update  
25                  a plan to efficiently integrate into the Sys-

1           tem new, innovative, or emerging tech-  
2           nologies that have been demonstrated to be  
3           useful to the System and which will fulfill  
4           the purposes of this chapter and the System  
5           Plan; and

6                 “(xiii) work with users and Regional  
7           Associations to develop products to enable  
8           real-time data sharing for decision makers,  
9           including with respect to weather fore-  
10           casting and modeling, search and rescue op-  
11           erations, corrosive seawater forecasts, water  
12           quality monitoring and communication,  
13           and harmful algal bloom forecasting.

14           “(4) REGIONAL COASTAL OBSERVING SYSTEMS.—

15                 “(A) IN GENERAL.—A regional coastal ob-  
16           serving system operated by a Regional Associa-  
17           tion described in the System Plan may not be  
18           certified or established under this subtitle unless  
19           it—

20                 “(i) has been or shall be certified or es-  
21           tablished by contract or agreement by the  
22           Administrator;

23                 “(ii) meets—

1                   “(I) the certification standards  
2                   and compliance procedure guidelines  
3                   issued by the Administrator; and

4                   “(II) the information needs of  
5                   user groups in the region while adher-  
6                   ing to national standards;

7                   “(iii) demonstrates an organizational  
8                   structure, that under funding limitations is  
9                   capable of—

10                  “(I) gathering required System  
11                  observation data;

12                  “(II) supporting and integrating  
13                  all aspects of coastal and ocean observ-  
14                  ing and information programs within  
15                  a region; and

16                  “(III) reflecting the needs of State,  
17                  local, and tribal governments, commer-  
18                  cial interests, and other users and  
19                  beneficiaries of the System and other  
20                  requirements specified under this sub-  
21                  title and the System Plan;

22                  “(iv) identifies—

23                  “(I) gaps in observation coverage  
24                  needs for capital improvements of Fed-

1                   *eral assets and non-Federal assets of*  
2                   *the System; and*

3                   “*(II) other recommendations to*  
4                   *assist in the development of the annual*  
5                   *and long-term plans prepared pursuant*  
6                   *ant to paragraph (2)(B)(i) and trans-*  
7                   *mits such information to the Inter-*  
8                   *agency Ocean Observation Committee*  
9                   *via the Program Office established*  
10                  *under paragraph (3)(C)(i);*

11                  “*(v) develops and operates under a*  
12                  *strategic operational plan that will ensure*  
13                  *the efficient and effective administration of*  
14                  *programs and assets to support daily data*  
15                  *observations for integration into the Sys-*  
16                  *tem, pursuant to the standards approved by*  
17                  *the Council;*

18                  “*(vi) works cooperatively with govern-*  
19                  *mental and nongovernmental entities at all*  
20                  *levels to identify and provide information*  
21                  *products of the System for multiple users*  
22                  *within the service area of the regional coast-*  
23                  *al observing system; and*

24                  “*(vii) complies with all financial over-*  
25                  *sight requirements established by the Ad-*

1                   *ministrator, including requirements relating*  
2                   *to audits.*

3                   “*(B) PARTICIPATION.—For the purposes of*  
4                   *this title, employees of Federal agencies are per-*  
5                   *mitted to be members of the governing body for*  
6                   *the regional coastal observing systems and may*  
7                   *participate in the functions of the regional infor-*  
8                   *mation coordination entities.”.*

9                   (c) *SYSTEM ADVISORY COMMITTEE.—Section 12304(d)*  
10                  *of the Integrated Coastal and Ocean Observation System*  
11                  *Act of 2009 (33 U.S.C. 3603(d)) is amended—*

12                  (1) *in paragraph (1), by striking “or the Inter-*  
13                  *agency Ocean Observing Committee.” and inserting*  
14                  *“or the Council under this subtitle”; and*

15                  (2) *in paragraph (2)—*

16                  (A) *in subparagraph (A), by inserting “,*  
17                  *data sharing,” after “data management”;*

18                  (B) *in subparagraph (C), by striking “and”*  
19                  *at the end; and*

20                  (C) *by striking subparagraph (D) and in-*  
21                  *serting the following:*

22                  “(D) additional priorities, including—

23                  “(i) a national surface current map-  
24                  ping network designed to improve fine scale  
25                  sea surface mapping using high frequency

1           *radar technology and other emerging tech-*  
2           *nologies to address national priorities, in-*  
3           *cluding Coast Guard search and rescue op-*  
4           *eration planning and harmful algal bloom*  
5           *forecasting and detection that—*

6                 “*I) is comprised of existing high*  
7           *frequency radar and other sea surface*  
8           *current mapping infrastructure oper-*  
9           *ated by national programs and re-*  
10          *gional associations;*

11          “*II) incorporates new high fre-*  
12          *quency radar assets or other fine scale*  
13          *sea surface mapping technology assets,*  
14          *and other assets needed to fill gaps in*  
15          *coverage on United States coastlines;*  
16          *and*

17          “*III) follows a deployment plan*  
18          *that prioritizes closing gaps in high*  
19          *frequency radar infrastructure in the*  
20          *United States, starting with areas*  
21          *demonstrating significant sea surface*  
22          *current data needs, especially in areas*  
23          *where additional data will improve*  
24          *Coast Guard search and rescue models;*

- 1                     “(ii) fleet acquisition for autonomous  
2                     underwater and surface vehicles for deployment  
3                     and data integration to fulfill the purposes of this Act;
- 4                     “(iii) an integrative survey program  
5                     for application of manned and unmanned  
6                     vehicles to the real-time or near real-time  
7                     collection and transmission of sea floor,  
8                     water column, and sea surface data on biology,  
9                     chemistry, geology, physics, and hydrography;
- 10                    “(iv) remote sensing and data assimilation to develop new analytical methodologies to assimilate data from the Integrated Ocean Observing System into hydrodynamic models;
- 11                    “(v) integrated, multi-State monitoring to assess sources, movement, and fate of sediments in coastal regions;
- 12                    “(vi) a multi-region marine sound monitoring system to be—
- 13                         “(I) planned in consultation with the Interagency Ocean Observation Committee, the National Oceanic and Atmospheric Administration, the De-

1                          *partment of the Navy, and academic*  
2                          *research institutions; and*

3                          *“(II) developed, installed, and op-*  
4                          *erated in coordination with the Na-*  
5                          *tional Oceanic and Atmospheric Ad-*  
6                          *ministration, the Department of the*  
7                          *Navy, and academic research institu-*  
8                          *tions; and*

9                          *“(E) any other purpose identified by the*  
10                          *Administrator or the Council.”;*

11                          *(D) in paragraph (3)(B), by inserting “The*  
12                          *Administrator may stagger the terms of the Sys-*  
13                          *tem advisory committee members.” before “Mem-*  
14                          *bers”; and*

15                          *(E) in paragraph (4)—*

16                          *(i) in subparagraph (A), by striking*  
17                          *“and the Interagency Ocean Observing*  
18                          *Committee”; and*

19                          *(ii) in subparagraph (C), by striking*  
20                          *“Observing” and inserting “Observation”.*

21                          *(d) CIVIL LIABILITY.—Section 12304(e) of the Inte-*  
22                          *grated Coastal and Ocean Observation System Act of 2009*  
23                          *(33 U.S.C. 3603(e)) is amended—*

24                          *(1) by striking “information coordination enti-*  
25                          *ty” and inserting “coastal observing system”; and*

1                   (2) by striking “non-Federal asset or regional in-  
2                   formation coordination entity,” and inserting “re-  
3                   gional coastal observing system.”.

4 **SEC. 5. FINANCING AND AGREEMENTS.**

5                   *Section 12305(a) of the Integrated Coastal and Ocean  
6 Observation System Act of 2009 (33 U.S.C. 3604(a)) is  
7 amended to read as follows:*

8                   “(a) **IN GENERAL.**—To carry out activities under this  
9 subtitle, the Secretary of Commerce may execute an agree-  
10 ment, on a reimbursable or nonreimbursable basis, with  
11 any State or subdivision thereof, any Federal agency, any  
12 public or private organization, or any individual to carry  
13 out activities under this subtitle.”.

14 **SEC. 6. REPORTS TO CONGRESS.**

15                   *Section 12307 of the Integrated Coastal and Ocean Ob-  
16 servation System Act of 2009 (33 U.S.C. 3606) is amended  
17 to read as follows:*

18 **“SEC. 12307. REPORT TO CONGRESS.**

19                   “(a) **REQUIREMENT.**—Not later than 2 years after  
20 March 30, 2009, and every 3 years thereafter, the Adminis-  
21 trator shall prepare, and the President acting through the  
22 Council shall approve and transmit to the Congress, a re-  
23 port on progress made in implementing this subtitle.

24                   “(b) **CONTENTS.**—Each report required under sub-  
25 section (a) shall include—

1           “(1) a description of activities carried out under  
2 this subtitle and the System Plan;

3           “(2) an evaluation of the effectiveness of the Sys-  
4 tem, including an evaluation of progress made by the  
5 Council to achieve the goals identified under the Sys-  
6 tem Plan;

7           “(3) the identification of Federal and non-Fed-  
8 eral assets as determined by the Council that have  
9 been integrated into the System, including assets es-  
10 sential to the gathering of required observation data  
11 variables necessary to meet the respective missions of  
12 Council agencies;

13           “(4) a review of procurements, planned or initi-  
14 ated, by each Council agency to enhance, expand, or  
15 modernize the observation capabilities and data prod-  
16 ucts provided by the System, including data manage-  
17 ment and communication subsystems;

18           “(5) a summary of the existing gaps in observa-  
19 tion infrastructure and monitoring data collection,  
20 including—

21           “(A) priorities considered by the System ad-  
22 visory committee;

23           “(B) the national sea surface current map-  
24 ping network;

25           “(C) coastal buoys;

1               “(D) ocean chemistry monitoring;

2               “(E) marine sound monitoring; and

3               “(F) autonomous underwater and surface

4               vehicle technology gaps;

5               “(6) an assessment regarding activities to inte-

6               grate Federal and non-Federal assets, nationally and

7               on the regional level, and discussion of the perform-

8               ance and effectiveness of regional information coordi-

9               nation entities to coordinate regional observation op-

10               erations;

11               “(7) a description of benefits of the program to

12               users of data products resulting from the System (in-

13               cluding the general public, industries, scientists, re-

14               source managers, emergency responders, policy mak-

15               ers, and educators);

16               “(8) recommendations concerning—

17               “(A) modifications to the System; and

18               “(B) funding levels for the System in subse-

19               quent fiscal years; and

20               “(9) the results of a periodic external inde-

21               pendent programmatic audit of the System.”.

22 **SEC. 7. PUBLIC-PRIVATE USE POLICY.**

23               Section 12308 of the Integrated Coastal and Ocean Ob-

24               servation System Act of 2009 (33 U.S.C. 3607) is amended

25               to read as follows:

1     **“SEC. 12308. PUBLIC-PRIVATE USE POLICY.**

2         “The Council shall maintain a policy that defines  
3     processes for making decisions about the roles of the Federal  
4     Government, the States, regional information coordination  
5     entities, the academic community, and the private sector  
6     in providing to end-user communities environmental infor-  
7     mation, products, technologies, and services related to the  
8     System. The Administrator shall ensure that National Oce-  
9     anic and Atmospheric Administration adheres to the deci-  
10    sion making process developed by the Council regarding the  
11    roles of the Federal Government, the States, the regional  
12    coastal observing systems, the academic communities, and  
13    the private sector in providing the end-user communities  
14    environmental information, data products, technologies,  
15    and services related to the System.”.

16     **SEC. 8. REPEAL OF INDEPENDENT COST ESTIMATE.**

17         (a) *IN GENERAL.*—The Integrated Coastal and Ocean  
18     Observation System Act of 2009 (33 U.S.C. 3601 et seq.)  
19     is amended by striking section 12309 (33 U.S.C. 3608).

20         (b) *TABLE OF CONTENTS AMENDMENT.*—The table of  
21     contents in section 1(b) of the Omnibus Public Land Man-  
22     agement Act of 2009 (Public Law 111-11; 123 Stat. 991)  
23     is amended by striking the item related to section 12309.

1   **SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2       *Section 12311 of the Integrated Coastal and Ocean Ob-*  
3   *servation System Act of 2009 (33 U.S.C. 3610) is amended*  
4   *by striking “2013” and inserting “2019”.*

5   **SEC. 10. REPORTS AND RESEARCH PLANS.**

6       *Section 12404(c) of the Federal Ocean Acidification*  
7   *Research And Monitoring Act of 2009 (33 U.S.C. 3703(c))*  
8   *is amended by adding at the end the following:*

9               **“(4) ECONOMIC VULNERABILITY REPORT.—**

10               **“(A) IN GENERAL.—***Not later than 2 years*  
11               *after the date of the enactment of the Coordin-*  
12               *ated Ocean Monitoring and Research Act, and*  
13               *every 5 years thereafter, the Subcommittee shall*  
14               *transmit to appropriate committees of Congress*  
15               *a report that—*

16               **“(i) is named ‘The Ocean Chemistry**  
17               *Coastal Community Vulnerability Assess-*  
18               *ment’;*

19               **“(ii) identifies gaps in ocean acidifica-**  
20               *tion monitoring by public, academic, and*  
21               *private assets in the network of regional*  
22               *coastal observing systems;*

23               **“(iii) identifies geographic areas which**  
24               *have gaps in ocean acidification research;*

25               **“(iv) identifies United States coastal**  
26               *communities, including fishing commu-*

1           *nities, low-population rural communities,*  
2           *tribal and subsistence communities, and is-*  
3           *land communities, that may be impacted by*  
4           *ocean acidification;*

5           “(v) identifies impacts of changing  
6           ocean carbonate chemistry on the commu-  
7           nities described in clause (iv), including  
8           impacts from changes in ocean and coastal  
9           marine resources that are not managed by  
10          the Federal Government;

11          “(vi) identifies gaps in understanding  
12          of the impacts of ocean acidification on eco-  
13          nomically or commercially important spe-  
14          cies, particularly those which support  
15          United States commercial, recreational, and  
16          tribal fisheries and aquaculture;

17          “(vii) identifies habitats that may be  
18          particularly vulnerable to corrosive sea  
19          water, including areas experiencing mul-  
20          tiple stressors such as hypoxia, sedimenta-  
21          tion, and harmful algal blooms;

22          “(viii) identifies areas in which exist-  
23          ing Integrated Ocean Observing System as-  
24          sets, including buoys and gliders, may be le-  
25          veraged as platforms for the deployment of

1           *new sensors or other applicable observing*  
2           *technologies; and*

3           “*(ix) is written in collaboration with*  
4           *the agencies responsible for carrying out*  
5           *this Act.*

6           “(B) FORM OF REPORT.—

7           “(i) INITIAL REPORT.—*The initial re-*  
8           *port required under subparagraph (A) shall*  
9           *include the information described in clauses*  
10          *(i) through (ix) on a national level.*

11          “(ii) SUBSEQUENT REPORTS.—*Each*  
12          *report required under subparagraph (A)*  
13          *after the initial report—*

14          “(I) *may describe the information*  
15          *described in clauses (i) through (ix) on*  
16          *a national level; or*

17          “(II) *may consist of separate re-*  
18          *ports for each region of the National*  
19          *Oceanic and Atmospheric Administra-*  
20          *tion.*

21          “(iii) REGIONAL REPORTS.—*If the*  
22          *Subcommittee opts to prepare a report re-*  
23          *quired under subparagraph (A) as separate*  
24          *regional reports under clause (ii)(II), the*  
25          *Subcommittee shall submit a report for each*

1           *region of the National Oceanic and Atmos-*  
2           *pheric Administration not less frequently*  
3           *than once during each 5-year reporting pe-*  
4           *riod.*

5           “*(C) APPROPRIATE COMMITTEES OF CON-*  
6           *GRESS DEFINED.—In this paragraph and in*  
7           *paragraph (5), the term ‘appropriate committees*  
8           *of Congress’ means the Committee on Commerce,*  
9           *Science, and Transportation of the Senate, the*  
10          *Committee on Science, Space, and Technology of*  
11          *the House of Representatives, and the Committee*  
12          *on Natural Resources of the House of Represent-*  
13          *atives.*

14          “*(5) MONITORING PRIORITIZATION PLAN.—Not*  
15          *later than 180 days after the date of the submission*  
16          *of the initial report under paragraph (4)(A), the Sub-*  
17          *committee shall transmit to the appropriate commit-*  
18          *tees of Congress a report that develops a plan to de-*  
19          *ploy new sensors or other applicable observing tech-*  
20          *nologies—*

21           “*(A) based on such initial report;*

22           “*(B) prioritized by—*

23           “*(i) the threat to coastal economies and*  
24           *ecosystems;*

25           “*(ii) gaps in data; and*

1                     “(iii) research needs; and  
2                     “(C) that leverage existing platforms, where  
3                     possible.”.

4 **SEC. 11. STRATEGIC RESEARCH PLAN.**

5             (a) *CONTENTS.*—Section 12405(b) of the Federal  
6 *Ocean Acidification Research And Monitoring Act of 2009*  
7 (*33 U.S.C. 3704(b)*) is amended—

8                 (1) in paragraph (8), by striking “and” at the  
9 end;

10                 (2) in paragraph (9), by striking the period at  
11 the end and inserting “; and”; and

12                 (3) by adding at the end the following:

13                 “(10) make recommendations for research to be  
14 conducted, including in the social sciences and eco-  
15 nomics, to address the key knowledge gaps identified  
16 in the economic vulnerability report conducted under  
17 section 12404(c)(4).”.

18             (b) *PROGRAM ELEMENTS.*—Section 12405(c) of the  
19 *Federal Ocean Acidification Research And Monitoring Act*  
20 *of 2009* (*33 U.S.C. 3704(c)*) is amended by adding at the  
21 end the following:

22                 “(6) Research to understand combined effects of  
23 changes in ocean chemistry, sediment delivery, hy-  
24 poxia, and harmful algal blooms and the impact these  
25 processes have on each other, and how these multiple

1       *stressors impact living marine resources and coastal  
2        ecosystems.*

3        “(7) *Applied research to identify adaptation  
4        strategies for species impacted by changes in ocean  
5        chemistry including vegetation-based systems, shell re-  
6        cycling, species and genetic diversity, applied tech-  
7        nologies, aquaculture methodologies, and management  
8        recommendations.”.*

9       **SEC. 12. STAKEHOLDER INPUT ON MONITORING.**

10      *Section 12406(a) of the Federal Ocean Acidification  
11     Research And Monitoring Act of 2009 (33 U.S.C. 3705(a))  
12     is amended—*

13        *(1) in paragraph (2), by striking “and” at the  
14        end;*

15        *(2) in paragraph (3), by striking the period at  
16        the end and inserting a semicolon and “and”; and*

17        *(3) by adding at the end the following:*

18        *“(4) includes an ongoing mechanism that allows  
19        potentially affected industry members, coastal stake-  
20        holders, fishery management councils and commis-  
21        sions, non-Federal resource managers, and scientific  
22        experts to provide input on monitoring needs that are  
23        necessary to support on the ground management, de-  
24        cision making, and adaptation related to ocean acidifi-  
25        cation.”.*

**1 SEC. 13. RESEARCH ACTIVITIES.**

2       *Section 12407(a) of the Federal Ocean Acidification  
3 Research And Monitoring Act of 2009 (33 U.S.C. 3706(a))  
4 is amended to read as follows:*

5       “(a) **RESEARCH ACTIVITIES.**—The Director of the Na-  
6 tional Science Foundation shall continue to carry out re-  
7 search activities on ocean acidification which shall support  
8 competitive, merit-based, peer-reviewed proposals for re-  
9 search, observatories and monitoring of ocean acidification  
10 and its impacts, including—

11       “(1) impacts on marine organisms and marine  
12 ecosystems;

13       “(2) impacts on ocean, coastal, and estuarine  
14 biogeochemistry;

15       “(3) the development of methodologies and tech-  
16 nologies to evaluate ocean acidification and its im-  
17 pacts; and

18       “(4) impacts of multiple stressors on ecosystems  
19 exhibiting hypoxia, harmful algal blooms, or sediment  
20 delivery, combined with changes in ocean chemistry.”.



**Calendar No. 265**

115<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION  
**S. 1425**

[Report No. 115-186]

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**A BILL**

To reauthorize the Integrated Coastal and Ocean Observation System Act of 2009, and for other purposes.

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NOVEMBER 27, 2017

Reported with an amendment